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GUY P. JONES
Editor

Study Hand-Shakes In Transfer Of Infections.

Dr. H. W. Hill and Miss Helen Mathews, of the University of British Columbia, have made several tests to demonstrate that hand-shaking is a means of transmitting many kinds of germs and have reached the following conclusions:

1. The transfer of organisms was as great, if not greater, when the given-hand was dry than when both were moist.
2. The greatest transfer was found to be to the palm of the hand; in fewer instances to the fingers, and least of all to the finger tips.

Their discussion follows:

"Shaking hands is one of the most common customs of our civilization. Business men meeting friends, acquaintances and business associates shake hands many times each day. Professional men and women shake hands often through the day, and sometimes when meeting a group of people will shake hands many times in close succession. Women, too, shake hands, although perhaps not as often as men. Of course there are people, especially of the laboring class, who seldom shake hands while at work, but do so out of working hours. Although not in a formal hand-shake, children clasp hands many more times than adults, and their hands are more likely to be dirty and are more often in their mouths—a fact that may help to explain the prevalance of "contagious" disease among children. Estimating as an average one hand-shake per person per day, the population of America (129 millions) would yield at least 128 millions hand-shakes per day. If one per cent of the population were diphtheria carriers and one-half of them had virulent organisms on the hands there would be a half-million transfers of diphtheria bacilli each day by hand-shaking alone. If 1 to 2 per cent of the population were chronic typhoid carriers and 10 per cent were temporary carriers, B. typhosus itself as well as other fæcal organisms being isolated from the fingers of carriers—there would be several millions of transfers of B. typhosus each day.

However, because of the intermittency of excretion every carrier has not virulent organisms on his hands, or, if he has, they are not always transferred; perhaps because the number of organisms is few or they are not on the part of the hand that touches during the hand-shake. If the organisms are transferred they may not cause disease; first, they may not enter the body; second, they may not reach the part of the body suited to their reproduction; and third, the person infected may be immune.

The greatest number of transfers is made to the palm of the hand. This is probably from the fingers, as shown by a study of the mechanism of the hand-shake. The fingers are contaminated more often by excreta than the rest of the hand, and hence they transfer, by hand-shaking, any adhering organisms to the palm of the take-hand; but, considering body infection, the palm of the hand is less likely to transfer infection than the finger tips. Owing to these factors disease is not transmitted as much as these experiments would seem to indicate.

Hand-shaking seems even more important in the transference of disease than the use of a common towel; in the former there is direct contact between unwashed hands, in the latter indirect contact between washed hands.

The hands are used for everything—eating, dressing, work of all kinds and for the removal of excreta from the body. If, then, we shake hands and receive some bacteria, unless we are careful we shall have transferred in a short time the organisms to our mouths. On the other hand, if we ourselves do not keep our hands clean we may transfer infection from ourselves to others. Our hands are continually in or on our mouths. The number of people in a crowd who have their fingers in the mouth has been calculated to be about 10%. It is often just a nervous habit or biting the finger nails. Another habit is that of moistening the fingers before turning pages. It is a habit common to all classes and ages of people at any time of the day, whether the hands are clean or not. It might be after shaking hands with a diphtheria carrier or after a carrier has moistened his fingers to turn the leaves of the same book. We do not realize how often we put our fingers in our mouths until we have some organisms or discharges on our hands, and then we have our fingers to our mouths only to realize that in doing so we would be infecting ourselves."

* *

Danger In Zinc Stearate Powders.

During the past few years a number of California infants have died as a result of the inhalation of zinc stearate powder. This material is in general use as a dusting powder for infants. Mothers and nurses sometimes allow babies to play with the container in order to keep them amused. The powder is dangerous because when it is breathed into the bronchial tubes and lungs it adheres to their surfaces causing an inflammation which may result in bronchitis or pneumonia. It is safest for mothers and nurses to make certain that this danger be eliminated by never permitting an infant to play with a container which holds zinc stearate powder.

The American Medical Association, two years ago, appointed a Committee on Accidents from Zinc Stearate Dusting Powders which met with the representatives of the manufacturers and distributors of this product in order to devise ways to prevent accidents of this sort to infants. At the meeting, held two years ago, the following agreement was reached among the manufacturers themselves:

"1. It was unanimously agreed to adopt a self-closing top.

2. We recognize that consideration should be given to the number, size and shape of openings of the container.

3. We agree that a precautionary statement on the label is desirable and, should you wish it, will submit the various precautionary statements for your approval.

4. It is our opinion that, with the adoption of 1, 2 and 3, no legislation covering this subject is at all necessary."

This committee now desires to know to what extent manufacturers and distributors of such powders are using containers with self-closing tops and bearing cautionary labels; also, to know what other evidence there is, if any, of an effort to diminish the danger of zinc stearate dusting podwers, as, for instance, by substituting metal containers for containers made of paper or other improved devices.

It is believed that legislation covering this material is unnecessary but the California State Board of Health will be glad to learn of any improvements in the provision of safe containers for zinc stearate powder that may have been observed within the state during the past two years.

The responsibility of manufacturers of this product is heavy but parents and nurses also share in the responsibility, since the danger that lies in the inhalation of this product is well known. Many of the most prominent pediatricians do not advocate the use of zinc stearate powders and in some hospitals it is not permitted.

* *

We have witnessed in the practice of medicine during the last few decades, several significant stages in its metamorphosis. Following the period of the general practitioner—the old family doctor—we saw the gradual development of organized group medical control among infants, school children, and industrial workers. Accompanying this, in private practice, was a high degree of medical specialization, and superimposed on it, has more recently come the emphasis in medicine upon personal hygiene, mainly through the device of the health examination. Many feel that there is here, a tremendous unoccupied field for medicine—the private practice of preventive medicine. Such is undoubtedly the case. But such probably will never be the universal interest of the medical profession nor perhaps its major obligation. We have by no means exhausted the possibilities of organized work in the schools, in factories, among infants, and possibly among pre-school children. Furthermore, people will still continue to get sick and to need medical service of a therapeutic type. However significant and enticing the field of personal hygiene in medical practice, and however glorious may be the future for the private practice of preventive medicine, yet the practice of medicine as a whole has roots deep in the past. It has obligations still to fulfill and fundamentals still to be recognized.—
Donald B. Armstrong, M.D.

1925 BRINGS LOWER DEATH RATE.

The Department of Commerce announces that the 1925 death rate for California was 1359 per 100,000 population as compared with 1452 in 1924. This decrease in 1925 is partially accounted for by decreases in the death rates from tuberculosis, all forms (from 135 to 142 per 100,000 population), diphtheria (from 18 to 7), pneumonia, all forms (from 96 to 85), measles (from 8 to 1), diarrhea and enteritis, under 2 years (from 35 to 29), cancer (from 131 to 127), and typhoid and paratyphoid fever (from 6 to 3).

Increases in 1925 were shown in the death rates from whooping cough (from 4 in 1924 to 12 per 100,000 population) and influenza (from 15 to 19).

Cause of death	*Deaths in California*			
	Number		*Rate per 100,000 estimated populaiion*	
	1925	*1924*	*1925*	*1924*
All causes[1]	56,800	56,832	1,358.9	1,452.3
Typhoid and paratyphoid fever	121	229	2.9	5.9
Malaria	26	19	0.6	0.5
Smallpox	59	57	1.4	1.5
Measles	35	329	0.8	8.4
Scarlet fever	64	106	1.5	2.7
Whooping cough	481	174	11.5	4.4
Diphtheria	275	699	6.6	17.9
Influenza	804	604	19.2	15.4
Dysentery	91	107	2.2	2.7
Erysipelas	74	82	1.8	2.1
Lethargic encephalitis	80	76	1.9	1.9
Meningococcus meningitis	47	50	1.1	1.3
Tuberculosis (all forms)	5,934	6,068	142.0	155.1
Of the respiratory system	5,262	5,381	125.9	137.5
Of the meninges, central nervous system	236	265	5.6	6.8
Other forms	436	422	10.4	10.8
Syphilis[2]	1,086	1,009	26.0	25.8
Cancer and other malignant tumors	5,292	5,120	126.6	130.8
Rheumatism	121	138	2.9	3.5
Pellagra	48	28	1.1	0.7
Diabetes mellitus	775	777	18.5	19.9
Meningitis (nonepidemic)	102	160	2.4	4.1
Cerebral hemorrhage and softening	3,962	4,412	94.8	112.7
Paralysis without specified cause	185	153	4.4	3.9
Diseases of the heart	10,317	9,616	246.8	245.7
Diseases of the arteries, atheroma, aneurysm, etc.	1,168	1,155	27.9	29.5
Bronchitis	292	312	7.0	8.0
Pneumonia (all forms)	3,564	3,744	85.3	95.7
Respiratory diseases other than bronchitis and pneumonia (all forms)	407	410	9.7	10.5
Diarrhea and enteritis (total)	1,481	1,686	35.4	43.1
Diarrhea and enteritis (under 2 years)	1,197	1,359	28.6	34.7
Diarrhea and enteritis (2 years and over)	284	327	6.8	8.4
Appendicitis and typhlitis	670	754	16.0	19.3
Hernia, intestinal obstruction	526	540	12.6	13.8
Cirrhosis of the liver	425	433	10.2	11.1
Nephritis	4,090	3,756	97.8	96.0
Puerperal septicemia	199	174	4.8	4.4
Puerperal causes other than puerperal septicemia	313	341	7.5	8.7
Congenital malformations and diseases of early infancy	2,777	2,728	66.4	69.7
Suicide	1,114	1,095	26.7	28.0
Homicide	332	374	7.9	9.6
Accidental and unspecified external causes (total)	4,302	4,138	102.9	105.7
Burns (conflagration excepted)	240	221	5.7	5.6
Accidental drowning	328	336	7.8	8.6
Accidental shooting	111	158	2.7	4.0
Accidental falls	754	618	18.0	15.8
Mine accidents	33	31	0.8	0.8
Machinery accidents	132	144	3.2	3.7
Railroad accidents	270	320	6.5	8.2
Collision with automobile	105	90	2.5	2.3
Other railroad accidents	165	230	3.9	5.9
Street-car accidents	152	119	3.6	3.0
Collision with automobile	66	40	1.6	1.0
Other street-car accidents	86	79	2.1	2.0
Automobile accidents (excluding collision with railroad and street cars)	1,327	1,254	31.7	32.0
Injuries by vehicles other than railroad cars, street cars and automobiles[3]	94	107	2.2	2.7
Excessive heat (burns excepted)	69	35	1.7	0.9
Other external causes	792	795	18.9	20.3
All other defined causes	5,057	5,077	121.0	129.7
Unknown or ill-defined causes	104	102	2.5	2.6

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[1] Exclusive of stillbirths.

[2] Includes tabes dorsalis (locomotor ataxia) and general paralysis of the insane.

[3] Includes airplane, balloon, and motorcycle accidents.

MORBIDITY.*

Diphtheria.

97 cases of diphtheria have been reported, as follows: Hayward 1, Oakland 9, Pittsburg 1, Fresno County 2, Fresno 1, Kern County 3, Bakersfield 1, Lake County 1, Los Angeles County 9, Burbank 1, Compton 3, Los Angeles 30, Merced County 2, Riverside 1, Sacramento 1, Colton 1, San Bernardino 1, San Diego 1, San Francisco 14, Stockton 1, Santa Clara County 2, San Jose 2, Sonoma County 4, Sutter County 1, Yuba City 4.

Measles.

375 cases of measles have been reported, as follows: Alameda 23, Berkeley 27, Hayward 2, Oakland 85, Butte County 2, Hercules 2, Pinole 8, Fresno 1, Kern County 1, Bakersfield 1, Los Angeles County 1, Los Angeles 1, Pasadena 4, Merced 3, Monterey County 2, Carmel 15, Salinas 2, Sacramento 9, Colton 2, Redlands 1, San Bernardino 1, San Francisco 110, San Joaquin County 6, Stockton 19, Tracy 2, San Luis Obispo County 10, Redwood City 1, Santa Clara County 2, Gilroy 1, Mountain View 6, Palo Alto 3, San Jose 20, Rio Vista 2.

Scarlet Fever.

105 cases of scarlet fever have been reported, as follows: Alameda County 1, Albany 5, Berkeley 1, Oakland 4, Chico 3, Gridley 1, Fresno 1, Kern County 2, Hanford 1, Los Angeles County 8, Alhambra 2, Covina 1, Glendale 1, Long Beach 1, Los Angeles 21, Pasadena 1, Whittier 1, Fullerton 1, Riverside 4, Sacramento 3, San Bernardino County 3, San Bernardino 1, San Diego 5, San Francisco 14, San Joaquin County 1, Stockton 8, Redwood City 1, Santa Clara County 1, San Jose 2, Sunnyvale 2, Vallejo 1, Modesto 1, Sutter County 1, Yuba County 1.

Smallpox.

Four cases of smallpox have been reported, as follows: Oakland 1, Fresno 1, Tracy 2.

Typhoid Fever.

17 cases of typhoid fever have been reported, as follows: Berkeley 1, Oakland 1, Fresno County 1, Los Angeles County 1, Glendale 1, Los Angeles 2, Pasadena 1, Marin County 1, Banning 1, Sacramento County 1, Siskiyou County 2, Dunsmuir 2, Sonoma County 2.

Whooping Cough.

43 cases of whooping cough have been reported, as follows: Albany 2, Berkeley 12, Oakland 10, Los Angeles County 5, Glendale 1, Long Beach 1, Los Angeles 2, San Gabriel 1, San Francisco 3, Burlingame 5, San Jose 1.

Meningitis (Epidemic).

Four cases of epidemic meningitis have been reported, as follows: Alameda 1, San Francisco 1, San Joaquin County 1, Tulare County 1.

Poliomyelitis.

Five cases of poliomyelitis have been reported, as follows: Los Angeles County 2, Los Angeles 1, Lincoln 1, San Diego 1.

Epidemic Encephalitis.

Two cases of epidemic encephalitis have been reported, as follows: Los Angeles 1, Burbank 1.

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*From reports received on October 4th and 5th, for week ending October 2d.

COMMUNICABLE DISEASE REPORTS.

	1926				1925			
	Week ending			Reports for week ending Oct. 2 received by Oct. 5	Week ending			Reports for week ending Oct. 3 received by Oct. 6
	Sept. 11	Sept. 18	Sept. 25		Sept. 12	Sept. 19	Sept. 26	
Anthrax	0	0	0	0	0	0	0	0
Botulism	0	0	0	0	0	0	0	0
Chickenpox	48	60	80	77	22	35	41	49
Diphtheria	62	78	175	97	56	83	90	77
Dysentery (Bacillary)	1	1	4	2	4	2	2	2
Epidemic Encephalitis	1	3	2	2	2	2	1	0
Gonorrhoea	84	135	94	107	85	299	77	70
Influenza	5	8	22	19	5	12	11	5
Jaundice (Epidemic)	0	0	0	0	0	0	0	0
Leprosy	0	1	1	0	1	2	0	0
Malaria	1	9	0	0	5	2	4	3
Measles	186	254	329	375	12	12	16	17
Meninigitis (Epidemic)	2	2	2	4	5	2	1	2
Mumps	53	104	85	109	35	70	110	84
Paratyphoid Fever	2	0	0	3	0	2	2	1
Pneumonia (Lobar)	25	25	52	25	55	15	24	29
Poliomyelitis	9	12	4	5	19	23	22	9
Rabies (Animal)	14	6	7	6	6	5	10	1
Rabies (Human)	0	0	0	0	0	0	0	0
Rocky Mt. Spotted Fever	0	0	0	0	0	0	0	0
Scarlet Fever	67	74	99	105	34	39	53	54
Smallpox	10	1	4	4	14	19	20	13
Syphilis	84	191	100	106	127	220	116	80
Tetanus	2	3	2	1	2	1	1	1
Trachoma	3	3	10	14	1	3	3	3
Trichinosis	0	0	0	0	0	0	0	0
Tuberculosis	138	135	134	140	125	153	183	129
Typhoid Fever	21	28	20	17	19	19	28	16
Typhus Fever	0	0	0	0	0	0	0	0
Whooping Cough	53	70	71	43	90	83	76	43
Totals	871	1203	1297	1261	724	1103	891	682

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